



Cloud Licensing Guide

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Preface

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Welcome to the *Cloud Licensing Guide*. This guide contains information about how to install and manage IAR products that use a cloud license, and how to manage continuous integration licenses and named user licenses. This guide also contains information on capacity and token management.

WHO SHOULD READ THIS GUIDE

You should read this guide if you are about to:

- Install a license and need more information than is available in the *Licensing Quick Reference* guide.
- Use the licensing page on IAR MyPages.

WHAT THIS GUIDE CONTAINS

This guide contains these chapters:

- *Introduction* gives a general introduction to the licensing procedure and describes the differences between the two license types.
- *Installation* gives a step-by-step description of how to install an IAR product that uses cloud licenses.
- *License management* gives step-by-step descriptions of how to perform some typical tasks when managing your cloud licenses.
- *Reference information* gives reference information on file formats and system specifications.

Further information

If this guide does not answer your questions or solve your problems concerning installation or licensing, you can:

- Read the *Release notes* for recent information that might not be included in this guide. The *Release notes* for IAR products are available in the Information Center and from the installation wizard.
- See the *Technical Articles* on [IAR MyPages](#).

DOCUMENT CONVENTIONS

When referring to a directory in your product installation, for example `product\doc`, the full path to the location is assumed, for example `c:\iar\ewproduct-2.1\product\doc`.

Typographic conventions

The IAR documentation set uses the following typographic conventions:




Style	Used for
computer	<ul style="list-style-type: none"> • Source code examples and file paths. • Text on the command line. • Binary, hexadecimal, and octal numbers.
<i>parameter</i>	A placeholder for an actual value used as a parameter, for example <i>filename.h</i> where <i>filename</i> represents the name of the file.
[option]	An optional part of a linker or stack usage control directive, where [and] are not part of the actual directive, but any [,], {, or } are part of the directive syntax.
{option}	A mandatory part of a linker or stack usage control directive, where { and } are not part of the actual directive, but any [,], {, or } are part of the directive syntax.
[option]	An optional part of a command line option, pragma directive, or library filename.
[a b c]	An optional part of a command line option, pragma directive, or library filename with alternatives.
{a b c}	A mandatory part of a command line option, pragma directive, or library filename with alternatives.
bold	Names of menus, menu commands, buttons, and dialog boxes that appear on the screen.
<i>italic</i>	<ul style="list-style-type: none"> • A cross-reference within this guide or to another guide. • Emphasis.
...	An ellipsis indicates that the previous item can be repeated an arbitrary number of times.
	Identifies instructions specific to the IAR Embedded Workbench® IDE interface.
>_	Identifies instructions specific to the command line interface.
	Identifies helpful tips and programming hints.
	Identifies warnings.

Table 1. Typographic conventions used in IAR documentation

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This chapter introduces the IAR cloud licensing system, with an overview of the installation and license management procedure, and of the different license types.

HOW IAR CLOUD LICENSING WORKS

When you subscribe to the IAR platform, you get access to all products offered by IAR and all supported architectures. The IAR cloud licensing management system authenticates the use of your IAR products against the cloud. You can authenticate the use with a named users license or a capacity license.

When you install your IAR product on a client computer the IAR LMSC Daemon is installed as well. The daemon communicates with the IAR cloud and verifies your licenses.

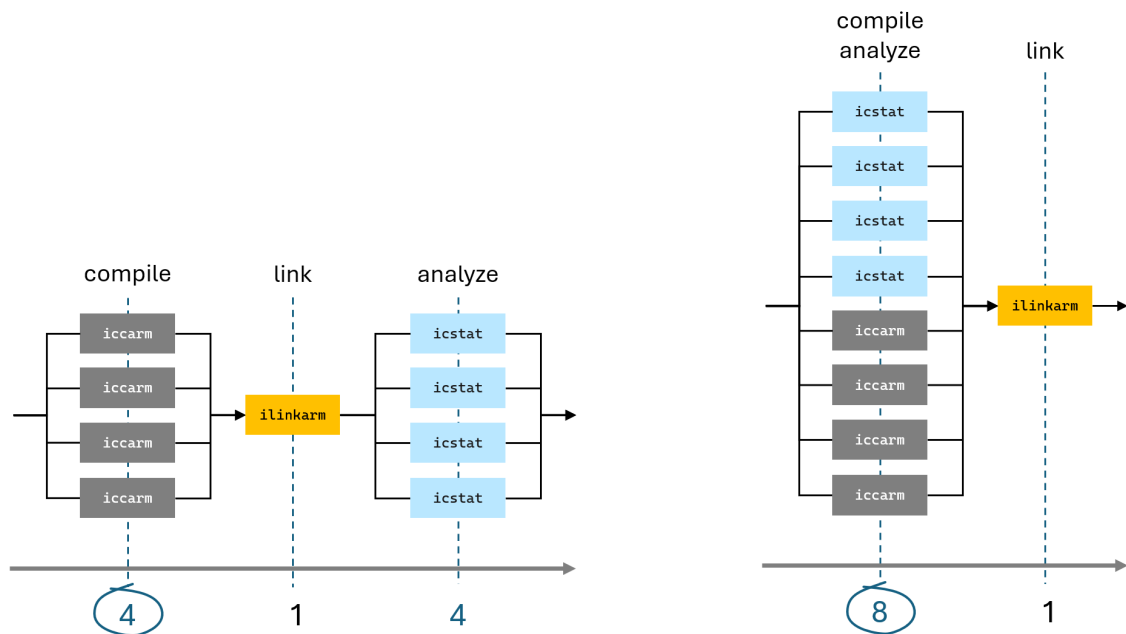
Capacity

Capacity is a measure of the number of IAR executables that can be used simultaneously. The executables are:

- the compiler
- the linker
- C-STAT
- the debugger

There is only one type of capacity, used by all IAR tools and supported architectures.

The following illustration shows a simplified view of two build pipelines. One pipeline requires a capacity of four and takes longer time to finish, the other pipeline requires a capacity of eight and finishes faster. A higher build throughput comes with a higher capacity usage.



Various factors might lead to a lower peak capacity usage than expected. For example, when using the make tool with the `-j` option for parallelism, the source file size, timing, and OS scheduling can lead to a lower peak capacity usage.

The capacity determines the maximum number of IAR executables that can be used simultaneously, and is set by IAR when the cloud licensing system is set up. To change your capacity, contact your *IAR sales representative*.

The capacity can be allocated to different tokens to control your build systems. The tokens can be configured by an admin in *IAR MyPages*.

Named Users license

A named users license is connected to the account of a unique user. The license authenticates the use of IAR products against the cloud on the computer the user is signed in on. This license type is intended for developers.

Continuous integration license

With this license type you create tokens with a maximum allowed capacity. The tokens authenticate the use against the cloud and restricts the number of executables that can be used simultaneously to the token capacity. You can have several tokens with different capacities to control your build systems. The continuous integration license is intended for use with automated build systems.

For information on how to manage tokens, see [Managing your tokens, page 11](#).

Installation

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This chapter gives information about how to install IAR products that use a cloud license, on a client computer.

SYSTEM REQUIREMENTS

To install and run the product with a cloud license you need a computer with:

- Internet access.
- A compatible operating system. Compatible systems are:
 - Ubuntu 22.04, 24.04, and RHEL 10
 - Windows 10 (version 1803 or later) and Windows 11

NETWORK REQUIREMENTS

To use IAR products with a cloud license, you need a stable internet connection with appropriate network configurations.

These network settings are required:

- HTTPS traffic allowed on TCP port 443.
- An available TCP port for the IAR LMSC Daemon communication. The default port depends on the license type:
 - Continuous integration: TCP port 5001.
 - Named users: TCP port 13478.

INSTALLING ON RED HAT OR UBUNTU

The package manager executable file for Red Hat is `rpm` and the filename extension for its associated archive files is `.rpm`. For Ubuntu, the package manager executable file is `apt` or `dpkg`, and the filename extension for their associated archive files is `.deb`. When both options are present, separated by a pipe character, use the appropriate alternatives for the Linux distribution that you are using.



When installing the IAR Build Tools themselves on Ubuntu, you must invoke `apt` with the `install` command `install`, otherwise dependency files will not be installed.

The default installation directory is `/opt/iar/`.

1. Install the IAR LMSC Daemon

Execute this command line (Red Hat/Ubuntu):

```
$ sudo dnf install ./iar-lmsc-tools-<version>-1.x86_64.rpm
or
$ sudo apt install ./iar-lmsc-tools_<version>-amd64.deb
```


2. Install your IAR product

Execute this command line (Red Hat/Ubuntu):

```
$ sudo dnf install ./<product>.rpm
or
$ sudo apt install ./<product>.deb
```

where <product> is the name of your IAR product installer, on the pattern <product>-<version>.deb|rpm.

For Arm products, also install the support files for the hardware device family your product uses:

```
$ sudo dpkg|rpm -i ./<devicepackage>.deb|rpm
```

The device packages have descriptive names on the pattern <product>-device-support-<vendor>-<version>.deb|rpm3

3. Connect your license

To connect a capacity token:

1. Copy the token string of the token you want to use.
2. Set up the access token environment variable with the token string:

```
export IAR_LMS_BEARER_TOKEN=<token_string>
```

To connect a Named User:

1. Execute this command line:
- ```
$ iarlogin login
```
2. Log in to your IAR account.

# INSTALLING ON WINDOWS

The default installation directory is C:\iar\.

## 1. Install your IAR product

There are two ways to install your IAR product, interactive installation and autonomous installation.

- To install the product interactively, run <product>-<version>.exe and follow the installation instructions. Select the support files for the device family your product uses when prompted during the installation process.
- To install your product autonomously, invoke the installer with Administrator privileges using the options /hide\_usd and /autoinstall:

```
<product>.exe /hide_usd /autoinstall
```

You can optionally specify an installation directory, using the full path prefixed with a forward slash (/). For example:

```
<product>.exe /hide_usd /autoinstall/D:\My Folder\IAR_Systems
```

## 2. Connect your license

To connect a capacity token:

1. Copy the token string of the token you want to use.

2. Set up the access token environment variable with the token string:

```
set IAR_LMS_BEARER_TOKEN=token_string
```

To connect a Named User:

- Using IAR Embedded Workbench:
  1. Open IAR Embedded Workbench and select **Log in**.
  2. Log in to your IAR account.
- Using iarlogin:
  1. Execute this command line:

```
iarlogin login
```
  2. Log in to your IAR account.

# License management

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This chapter describes how to perform typical license management tasks.

## MANAGING YOUR TOKENS

This section gives information about how to configure your tokens.



Only an admin can perform the tasks described in this section.

### Creating a token

To create a token, go to [mypages.iar.com](https://mypages.iar.com) and log in to your admin account.

1. In **MyPages**, click **My Licenses & Updates**.
2. Under **My Licenses**, click the license number of your product. This opens the **Asset** page.
3. On the **Asset** page, click the **Manage Tokens** button.
4. In the **Manage Tokens** dialog box, select **Create New Token**, and click **Next**.
5. Specify a name, a capacity, and an expiration date for the token. If you do not specify a name for the token, it will be assigned a random name. Click **Next**.
6. Verify that the token information is correct, then click **Next**.
7. Copy the token string and store it in a safe place. Click **Finish**.



The token string will not be saved anywhere automatically.

### Disabling a token



A disabled token cannot be activated again.

To disable a token, go to [mypages.iar.com](https://mypages.iar.com) and log in to your admin account.

1. In **MyPages**, click **My Licenses & Updates**.
2. Under **My Licenses**, click the license number of your product. This opens the **Asset** page.
3. On the **Asset** page, click the **Manage Tokens** button.
4. In the **Manage Tokens** dialog box, select **Disable Token**, and click **Next**.
5. Select the token you want to disable, then click **Next**.
6. The token is confirmed to have been disabled. Click **Finish**.

## Changing token capacity



Changes to token capacity can affect build processes in progress.

To change the capacity of a token, go to [mypages.iar.com](https://mypages.iar.com) and log in to your admin account.

1. In **MyPages**, click **My Licenses & Updates**.
2. Under **My Licenses**, click the license number of your product. This opens the **Asset** page.
3. On the **Asset** page, click the **Manage Tokens** button.
4. In the **Manage Tokens** dialog box, select **Change token Capacity**, and click **Next**.
5. Select the token you want to change capacity of and click **Next**.
6. Enter a capacity for the token. Click **Next**.
7. The token is confirmed to have been updated. Click **Finish**.

## MANAGING YOUR NAMED USERS

This section gives information about how to configure your Named Users.



Only an admin can perform the tasks described in this section.

### Creating a Named User

To create a Named User, go to [mypages.iar.com](https://mypages.iar.com) and log in to your admin account.

1. In **MyPages**, click **My Licenses & Updates**.
2. Under **My Licenses**, click the license number of your product. This opens the **Asset** page.
3. On the **Asset** page, click the **Manage Named Users** button.
4. In the **Manage Named Users** dialog box, select **Create New Named User**, and click **Next**.
5. Specify the first name, last name, and email address of the user. Click **Next**.
6. Verify that the user information is correct, then click **Finish**.

### Disabling a Named User

To disable a Named User, go to [mypages.iar.com](https://mypages.iar.com) and log in to your admin account.

1. In **MyPages**, click **My Licenses & Updates**.
2. Under **My Licenses**, click the license number of your product. This opens the **Asset** page.
3. On the **Asset** page, click the **Manage Named Users** button.
4. In the **Manage Named Users** dialog box, select **Disable Named User**, and click **Next**.
5. Select the Named User you want to disable, then click **Next**.
6. The Named User is confirmed to have been disabled. Click **Finish**.

## LOGGING LICENSE ACTIVITIES

You can log license-related activities. Typically, this is useful for monitoring licenses and how they are used.

### Activating license logging



The license logging feature is subject to change.

## Logging on Red Hat or Ubuntu

You can activate license logging by entering the environmental variables:

```
export IAR_LMS_LOG_FILE=<path_to_log_file>
export IAR_LMS_DAEMON_LOG_FILE=<path_to_log_file>
```

If no log level is set, the log files are created with the default log level `error`. To set a log level, use the environment variables:

```
export IAR_LMS_LOG_LEVEL="log_level"
export IAR_LMS_DAEMON_LOG_LEVEL="log_level"
```

The log level can be set to `none`, `error`, `warning`, `info`, or `debug`.

For example:

```
export IAR_LMS_LOG_FILE=$HOME/logfile1.txt
export IAR_LMS_DAEMON_LOG_FILE=$HOME/logfile2.txt
export IAR_LMS_LOG_LEVEL="debug"
export IAR_LMS_DAEMON_LOG_LEVEL="warning"
```

## Logging on Windows

You can activate license logging by entering the environmental variables:

```
set IAR_LMS_LOG_FILE=<path_to_log_file>
set IAR_LMS_DAEMON_LOG_FILE=<path_to_log_file>
```

If no log level is set, the log files are created with the default log level `error`. To set a log level, use the environment variables:

```
set IAR_LMS_LOG_LEVEL=log_level
set IAR_LMS_DAEMON_LOG_LEVEL=log_level
```

The log level can be set to `none`, `error`, `warning`, `info`, or `debug`.

For example:

```
set IAR_LMS_LOG_FILE=C:\Users\logfile1.txt
set IAR_LMS_DAEMON_LOG_FILE=C:\Users\logfile2.txt
set IAR_LMS_LOG_LEVEL=debug
set IAR_LMS_DAEMON_LOG_LEVEL=warning
```

# Reference information

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This chapter gives reference information about file formats and system specifications.

## LOG FILE FORMAT

If logging is activated, the information is recorded in a JSON format log file, one entry per line.

Each line is in this format:

```
{ "timestamp": "time", "level": "log_level", "pid": "process_id",
 "client_id": "client id", "message": "description" }
```

| Element            | Description                                                  |
|--------------------|--------------------------------------------------------------|
| <i>time</i>        | The time when the log was created, in UTC.                   |
| <i>log_level</i>   | The log level. Can be error, warning, info, debug, or trace. |
| <i>process_id</i>  | The process ID of the application.                           |
| <i>client_id</i>   | The thread ID.                                               |
| <i>description</i> | A description of the log event.                              |

A typical entry might appear as:

```
{ "timestamp": "2025-03-24 08:48:06.842", "level": "debug", "pid": "24568",
 "client_id": "1742806083063298400", "message": "[LMSC2xxx]: Token is missing
in file: C:\\Users\\user\\login\\config.json " }
```

## SYSTEM SPECIFICATIONS

- If there is no capacity available for a build process, the process will wait until there is capacity available, for a maximum of three days.
- If connection to the cloud is lost, any build process in progress can keep running for one minute on the capacity used when the connection was lost. After one minute, the capacity is dropped.